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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/913,688	11/14/2001	Takeo Morinaga	SONYJP-135	3830
530 7590 03/16/2007 LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090			EXAMINER NGUYEN, TANH Q	
			ART UNIT 2182	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.		Applicant(s)	
	09/913,688		MORINAGA, TAKEO	
	Examiner		Art Unit	
	Tanh Q. Nguyen		2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2006 (RCE).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,7-20,25-38,41-50 is/are pending in the application.
- 4a) Of the above claim(s) 8-18,25-34,36 and 38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,7,19,20,35,37 and 41-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 18, 2006 has been entered.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
3. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not). Misnumbered claims 39-48 been renumbered 41-50 because 40 claims were presented previously (November 14, 2001).
4. The drawings are objected to under 37 CFR 1.83(a) because they fail to show drive 140 in FIG. 14, as described in the specification [page 29, lines 2-4]. Any structural detail that is essential for a proper understanding of the disclosed invention

Art Unit: 2182

should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claims 41, 43, 46, 49 are objected to because of the following informalities:
"output" should be replaced with "outputting" in line 4 of each of the respective claims.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

Art Unit: 2182

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

8. Claims 1-2, 7, 19-20, 35-37, 41-50 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

A. Claim 1 recites "memory control means for controlling writing and reading said packets of said memory means and for issuing a command to prepare transferring" in lines 10-12. The specification discloses the SDRAM controller 59 controlling the writing and reading of the packets into the input FIFO 61 and from an input FIFO 62 of the SDRAM 60 [page 17, lines 4-7], but does not disclose the SDRAM controller 59 issuing a command to prepare transferring. The specification also discloses an instruction to start the DMA transfer being issued to the control machine 132 for preparing the DMA transfer [page 22, lines 24-26], but does not disclose the SDRAM controller 59 issuing the instruction to prepare transferring.

Applicant is required to point out support for the limitation claimed by page number, line number, and/or drawing number as appropriate - in order to overcome the rejections. A mapping of each of the plurality of means in the claim with elements in the specification would help clarify the scope of the claim and further the prosecution.

Claims 19, 35, 37 recite respective limitations, each of which being similar to the

Art Unit: 2182

limitation claimed in claim 1, and are therefore rejected on the same bases. Claims that depend on claims 1, 19, 35, 37 are also rejected on the same bases.

B. Claims 41-42 recite "said packets transferring control means supplies start address of said recording means", and "said packets transferring control means updates said start address of said recording means". Applicant indicates that support for the claims can be found in the application. The examiner however did not find any explicit support for such limitation.

Applicant is required to point out support for the limitation claimed by page number, line number, and/or drawing number as appropriate - in order to overcome the rejections.

Claims 43-44, 46-47, 49-50 recite respective limitations that are similar to the limitations claimed in claims 41-42, and are therefore rejected on the same bases.

9. Claims 1-2, 7, 19-20, 35-37, 41-50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claims 1-2, 7, 19-20, 35-37, 41-50 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements/steps, such omission amounting to a gap between the elements/steps. See MPEP § 2172.01.

Claim 1 recites "said packets are transferable for recording to said recording means from said index adding means" in the last three lines of the claim. It is not clear how the packets can be transferred from the index adding means when there is no element/step for transferring packets to the index adding means. It is also not clear

Art Unit: 2182

whether the packets being transferable for recording to the recording means include an index, and if the packets include an index - whether a same index is added to each of the packets, or only one index is added for all the packets. In addition, since there are packets in a stream, packets being extracted, packets with an index, applicant also needs to differentiate which ones are being transferred to clarify the scope of the claims (e.g. it is not clear which of the different types of packets are being referred to by "said packets" in claim 2).

Claims 2, 41-42 are rejected on the same bases. Claims 19-20, 43-44; 35, 45-47; 37, 48-50 recite limitations that generally correspond to the limitations of claims 1-2, 41-42, and are rejected on the same bases.

11. Claim 1 recites "memory control means for controlling writing and reading said packets of said memory means" in lines 10-11. Such recitation is ambiguous, as it is not clear how the memory control means can control writing said packets of said memory means (i.e. writing packets of the memory means to the memory means).

Claim 2 recites "said transferring of said packets is made cluster by cluster of a predetermined data amount". Such recitation is ambiguous, as it is not clear what "cluster by cluster of a predetermined data amount" means. It appears that "said transferring of said packets is made cluster by cluster, the cluster being of a predetermined data amount" is more appropriate.

Claim 41 recites "said packets transferring control means supplies start address of said recording means", and claim 42 recites "said packets transferring control means updates said start address of said recording means". Such recitations are ambiguous.

Art Unit: 2182

It is not clear why the start address of the recording means needs to be supplied and/or updated since the start address of the recording means should always be known and always be the same.

Claim 42 recites "once determined said end status". Such recitation is ambiguous. It appears that "once said end status is determined" is more appropriate.

Claims 19-20, 43-44; 35, 45-47; 37, 48-50 generally correspond to claims 1-2, 41-42, and are rejected on the same bases.

12. The rejections that follow are based on the examiner's best interpretation of the claims.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 1-2, 7, 19-20, 35, 37, 41-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA: pages 1-9 and FIG. 1) in view of Mergard (US 5,881,248).

15. As per claim 1, AAPA teaches an information processing apparatus [a digital broadcast receiving apparatus - FIG. 1] comprising:

receiving means [12, 13, FIG. 1] for receiving a stream constructed by packets of

a predetermined format under control of a control means [CPU 1, FIG. 1];

extracting means [21, FIG. 1] for extracting packets for recording to a recording means [15, FIG. 1] from the packets constructing said stream received by said receiving means;

memory means [23, FIG. 1] for storing said packets for recording;

memory control means [28, 1 - FIG. 1] for controlling writing said packets to said memory means and for reading said packets of said memory means [page 5, lines 19-23] and for issuing a command to prepare transferring [the host CPU executes the issuance of a command to the hard disk, the setting of the transfer start timing - page 8, lines 24-27];

index adding means for adding an address on the recording means [the setting of the LBA by the host CPU - page 8, lines 24-27] as index to said packets read out by said memory control means [LBA being used for address designation to access location on recording means - page 8, lines 1-19]; and

packets transferring control means [DMA controller - 29, FIG. 1] for permitting write access to said recording means in accordance with said command from said memory control means [page 8, lines 14-16; page 8, lines 24-26], so that said packets are transferable for recording to said recording means from said index adding means without control of said control means [DMA transfer requires control from a DMA controller, hence does not require control from the host].

AAPA does not teach issuing the command before an amount of the packets stored by the memory means reaches a full capacity.

Mergard teaches forming a command when the data amount of the packets stored in the memory means reaches a predetermined capacity in order to prevent the memory from overflowing, the predetermined capacity being less than the full capacity of the memory [col. 7, lines 13-19].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form a DMA command when the data amount of the packets stored in the memory means reaches a predetermined capacity, as is taught by Mergard, in order to prevent the memory from overflowing.

16. As per claim 2, AAPA teaches the memory means including an input FIFO [23, FIG. 1], and the minimum unit of the recording of the data being a sector of a predetermined data amount [page 8, lines 1-3] - hence said transferring of said packets being made cluster by cluster, the cluster being of a predetermined data amount.

17. As per claims 7, 19-20, AAPA further teach the recording means being a hard disk drive [15, FIG. 1] built in said information processing apparatus [FIG. 1].

18. As per claims 35, 37, the claims generally correspond to claim 1 and are rejected on the same bases.

19. As per claims 41-44, AAPA teaches said input FIFO for sequentially storing said packets for recording and for output said packets in storing order [page 5, lines 15-17]; said packets transferring control means supplying a start address for the packets to be transferred [DMA descriptor/command includes a destination address];

said packets transferring control means transferring said packets for recording to said recording means until an end status is determined [when a number of data blocks

Art Unit: 2182

corresponding to a count in a DMA descriptor/command is transferred, the DMA transfer is complete], the packets transferring control means updating the start address for new packets to be transferred once an end status is determined [the DMA controller processes the next DMA descriptor/command - hence supplying a start address for the new packets to be transferred in accordance with the next DMA descriptor/command].

20. As per claims 45-50, see the rejections of claims 2, 41-42 above.

Response to Arguments

21. Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection and/or not persuasive.

Applicant argues that AAPA transfers packets under the control of the CPU. The argument is not persuasive because the DMA transfer is under control of the DMA controller and not of the CPU. Note that the recited claims only require "said packets are transferable for recording to said recording means without control of the control means" (i.e. only the packet transfer is without the control of the control means, nothing else is recited to be without the control of the control means).

Applicant also argues that AAPA does not disclose "a memory control means" - as recited in the amended claims. The argument is moot in view of the new grounds of rejections (see the rejections above).

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2182

Hirahata et al. (JP 07-114510) discloses eliminating the need for DMA actuation by a processor and efficiently use a FIFO in an I/O - by providing a circuit which detects the conditions of DMA actuation and allowing an I/O to actuate DMA.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanh Q. Nguyen whose telephone number is 571-272-4154. The examiner can normally be reached on M-F 9:30AM-7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TQN
March 8, 2007

TANH Q. NGUYEN
PRIMARY EXAMINER
TECHNOLOGY CENTER 2100

Tanh Q. Nguyen
March 8, 2007